

U.S. DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER
ENVIRONMENTAL ENGINEERING DIVISION, DTS-33
55 BROADWAY, KENDALL SQUARE
CAMBRIDGE, MASSACHUSETTS 02142

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2009584

RAINY CREEK RIVER BANK RESTORATION

LINCOLN COUNTY, MONTANA
OCTOBER, 2002

LIST OF DRAWINGS

<u>SHEET NO.</u>	<u>TITLE</u>
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G1	COVER SHEET
C1	RAINY CREEK REVEGETATION PLAN
C2	RAINY CREEK TYPICAL BANK SECTIONS
C3	RAINY CREEK CONCEPTUAL PLANT LAYOUT

CONTRACTOR SUPPORT PROVIDED BY:



Federal Programs Corporation

consulting
engineering
construction
operations

34 N. LAST CHANCE
SUITE 104
HELENA, MONTANA 59601

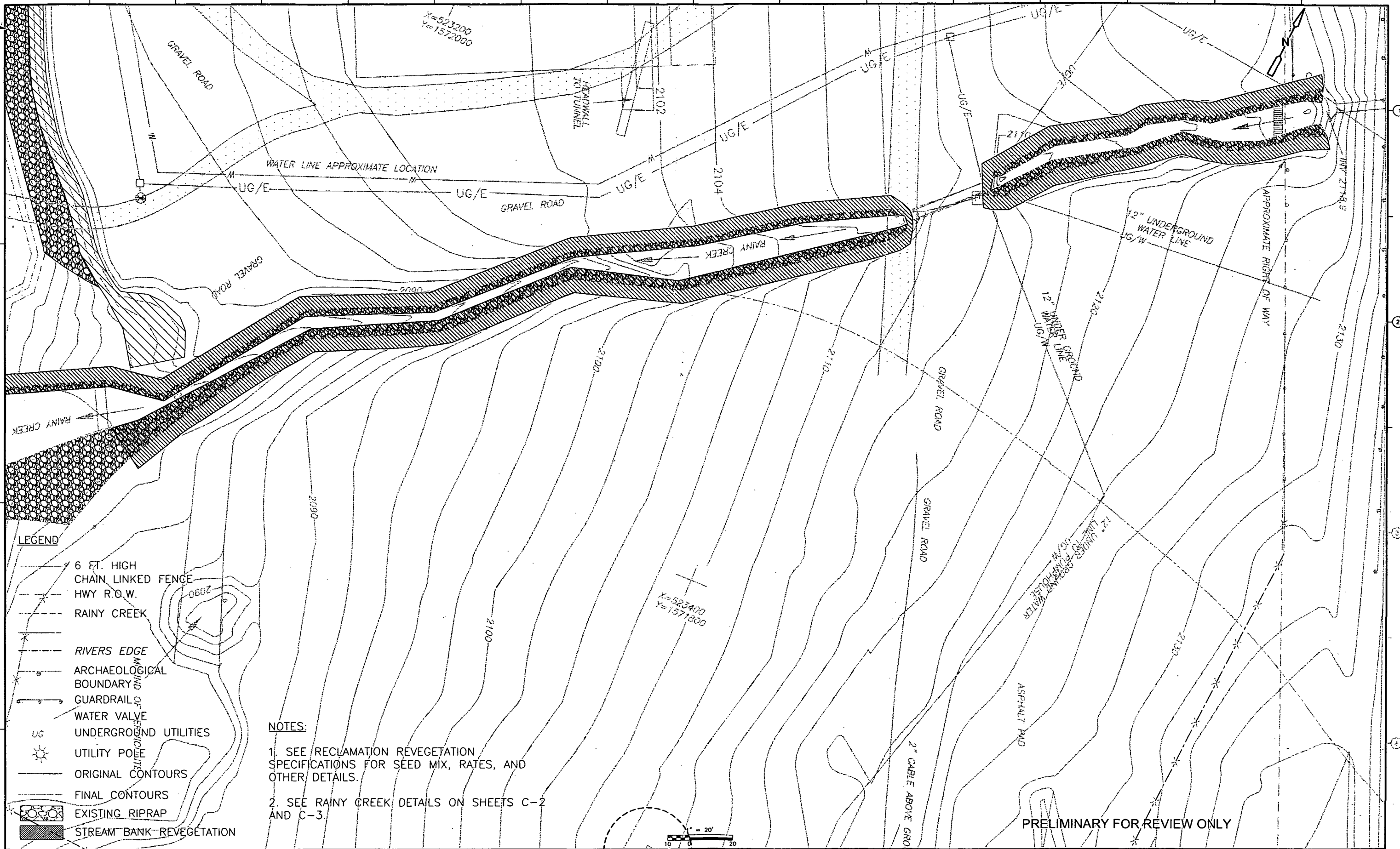
ACCEPTED BY: _____

MELVIN G. & LERAH LORENE PARKER

DATE: _____

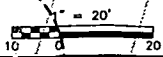
PRELIMINARY FOR REVIEW ONLY

N:\Land Projects(2002)\357679 (LRC)\DWGFS\35767-FIG-C-1.DWG 10/11/2002 4:41:54 PM MDT



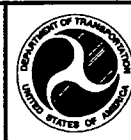
- LEGEND**
- 6 FT. HIGH CHAIN LINKED FENCE
 - HWY R.O.W.
 - RAINY CREEK
 - RIVERS EDGE
 - ARCHAEOLOGICAL BOUNDARY
 - GUARDRAIL
 - WATER VALVE
 - UG UNDERGROUND UTILITIES
 - UTILITY POLE
 - ORIGINAL CONTOURS
 - FINAL CONTOURS
 - EXISTING RIPRAP
 - STREAM BANK REVEGETATION

- NOTES:**
1. SEE RECLAMATION REVEGETATION SPECIFICATIONS FOR SEED MIX, RATES, AND OTHER DETAILS.
 2. SEE RAINY CREEK DETAILS ON SHEETS C-2 AND C-3.



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D.M.S.
DRAWN BY: K.M.
SHEET CHK'D BY: D.M.S.
CROSS CHK'D BY:
APPROVED BY:
DATE: OCTOBER 2002



U.S. DEPARTMENT OF TRANSPORTATION
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JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER
ENVIRONMENTAL ENGINEERING DIVISION, OTS-33
55 BRIMLEY, FEDERAL SQUARE
CAMBRIDGE, MASSACHUSETTS 02142

CONTRACTOR SUPPORT PROVIDED BY:
CDM Federal Programs Corporation
a subsidiary of Camp Dresser & McKee Inc.
500 WASHINGTON STREET
CAMBRIDGE, MASSACHUSETTS 02139

ASBESTOS REMOVAL PROJECT
LIBBY, MONTANA

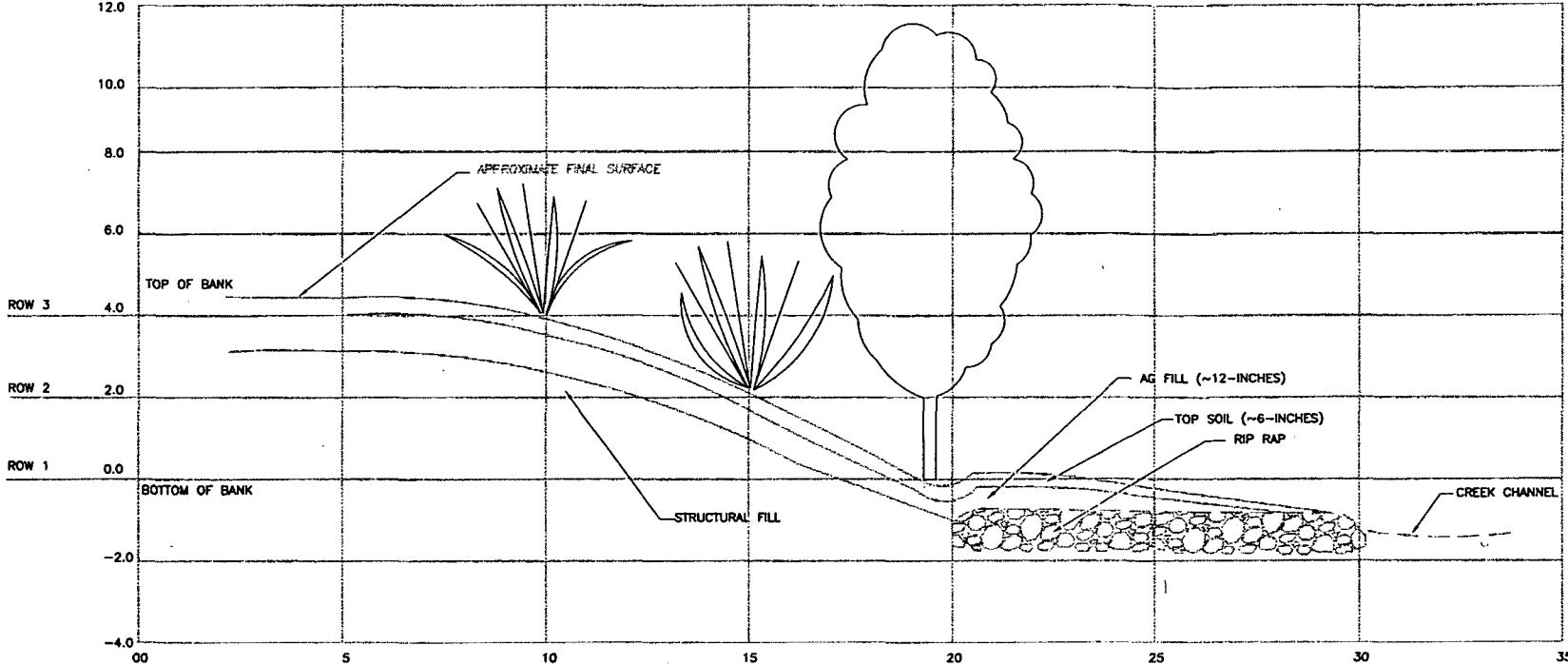
SCREENING PLANT

RAINY CREEK REVEGETATION PLAN

C-1

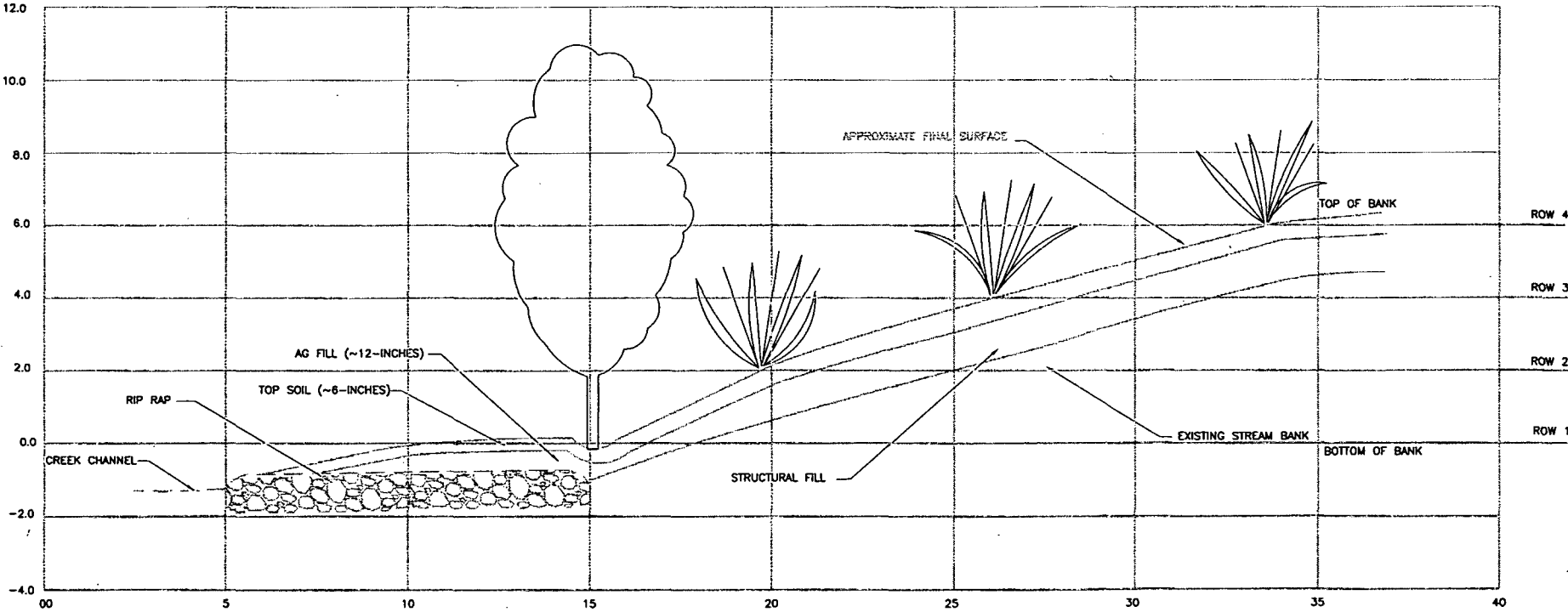
PROJECT NO. 4000
FILE NAME: 35767-FIG C1
SHEET NO.
C-1

CROSS-SECTION OF VEGETATION GROWTH AFTER 5-YEARS ON RAINY CREEK



NORTH BANK OF RAINY CREEK
(TYPICAL CROSS-SECTION)

- NOTES:
- 1. SEE SHEET C-1 FOR RAINY CREEK PLAN VIEW. BANK SLOPES MAY VARY FROM THAT SHOWN DUE TO ON-GOING STREAM RESTORATION WORK.
 - 2. RIP RAP WIDTH VARIES THROUGHOUT RAINY CREEK. ROW 1 PLANTINGS MAY BE OVER RIP RAP IN SOME AREAS.




SOUTH BANK OF RAINY CREEK
(TYPICAL CROSS-SECTION)

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REV. NO.	DATE	DRWN	CHKD	REMARKS

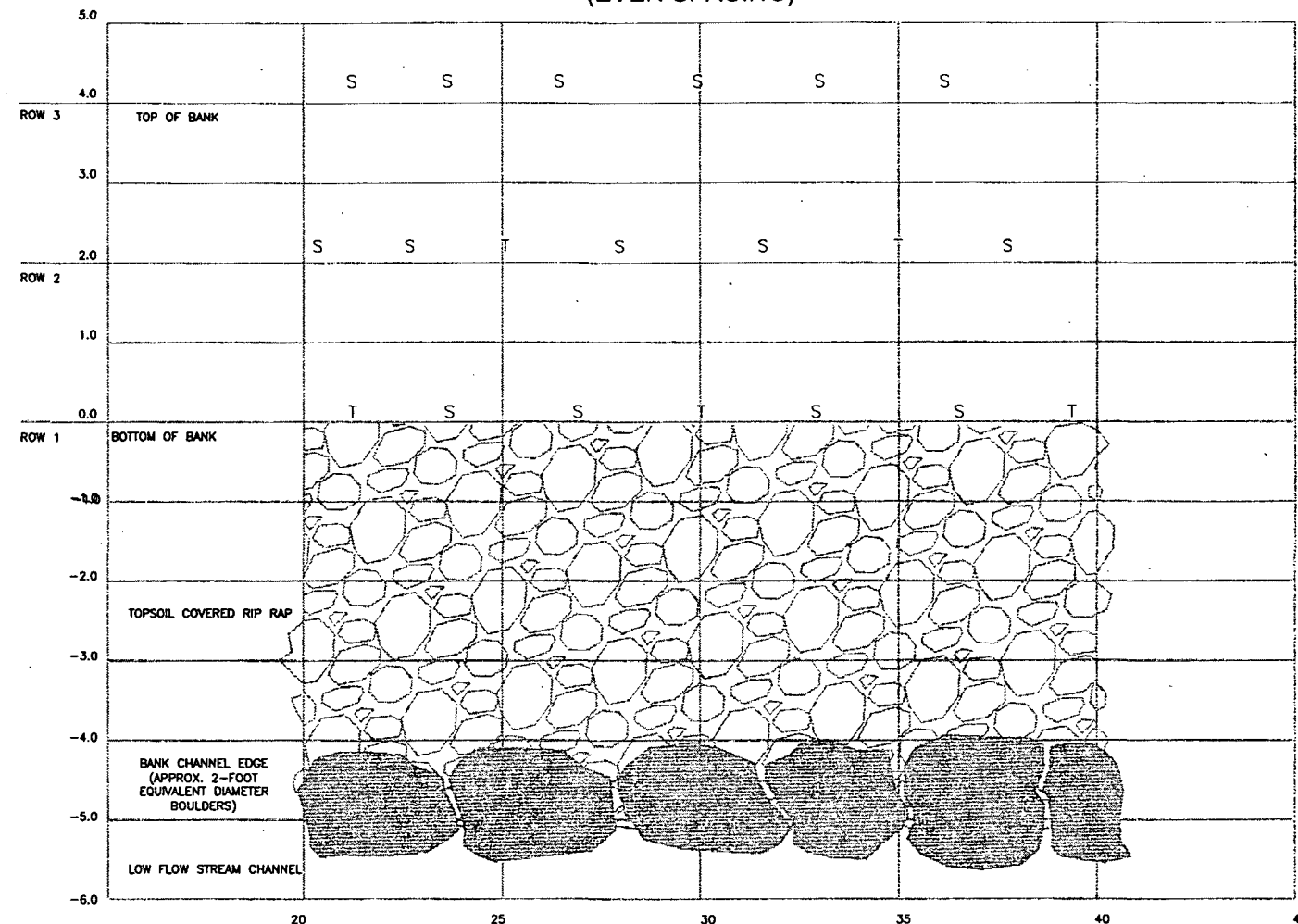
DESIGNED BY: R.B.R.		<small>U.S. DEPARTMENT OF TRANSPORTATION RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER ENVIRONMENTAL ENGINEERING DIVISION, 375-33 55 BRIMLEY, KIDDALE, MASSACHUSETTS 02142</small>
DRAWN BY: K.M.		
SHEET CHK'D BY: D.S.		
CROSS CHK'D BY:		
APPROVED BY:		
DATE: OCTOBER 2002		

CONTRACTOR SUPPORT PROVIDED BY: CDM Federal Programs Corporation <small>34 N. LAST CHANCE CULCH SHELTON, MONTANA 59601</small>	ASBESTOS REMOVAL PROJECT LIBBY, MONTANA SCREENING PLANT
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PROJECT NO. 4000 FILE NAME: 35767-FIG1	RAINY CREEK TYPICAL BANK SECTIONS
SHEET NO. C-2	

AERIAL VIEW OF VEGETATION CANOPY COVERAGE AFTER 5-YEARS GROWTH ON RAINY CREEK

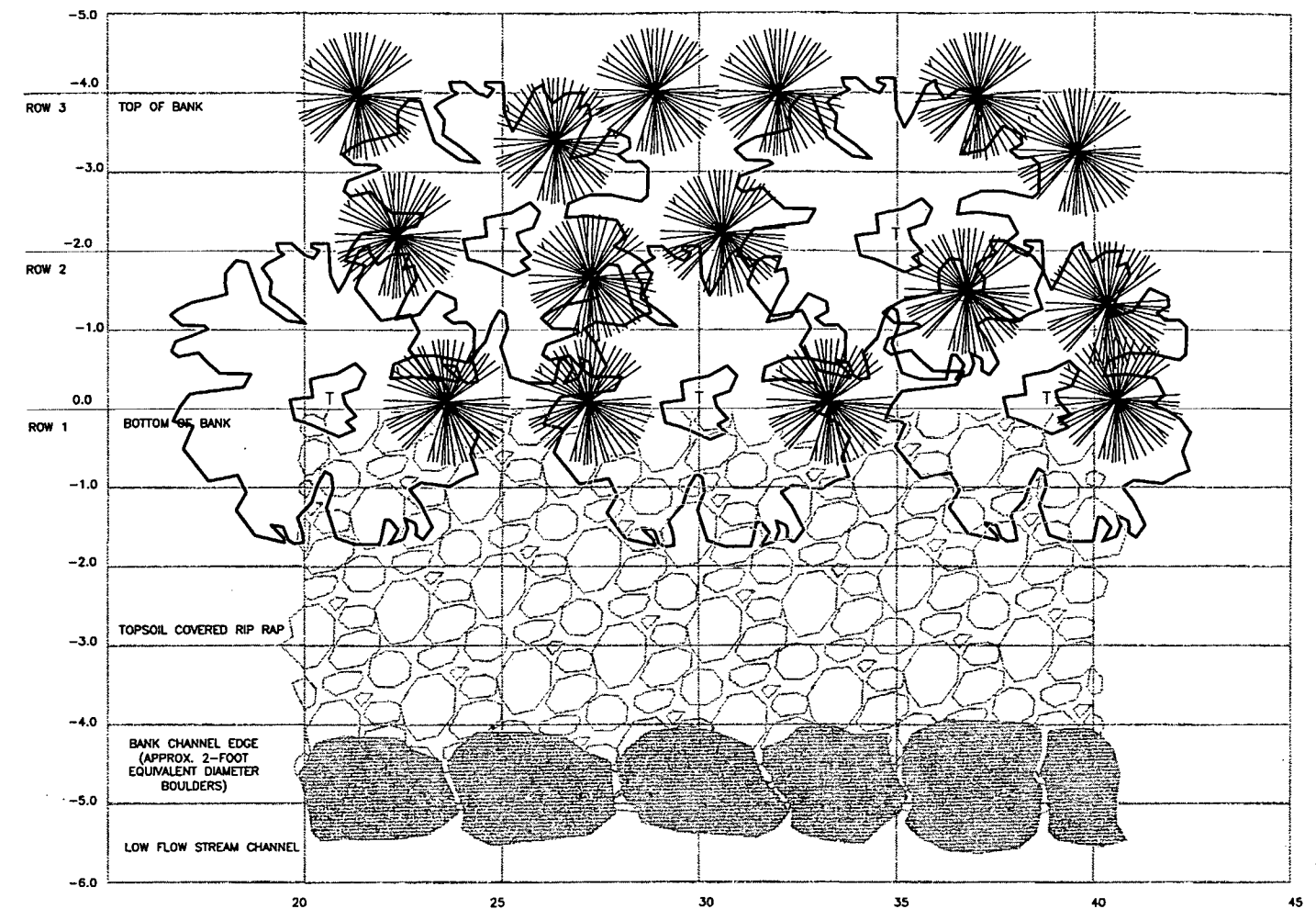
TYPICAL NORTH BANK OF RAINY CREEK
(EVEN SPACING)



NOTE:

1. THIS TYPICAL DRAWING USED TO OBTAIN A COUNT OF PLANTINGS. ACTUAL PLANTINGS WILL BE SIMILAR TO THE NATURAL SPACING LAYOUT.

TYPICAL NORTH BANK OF RAINY CREEK
(NATURAL SPACING)



LEGEND:

S - SHRUBS
T - TREES

SHRUBS:



TREES:



RIP RAP



NOTES:


1. WHEN MATURE:
SHRUBS APPROXIMATELY 3-4 FEET IN DIAMETER
TREES APPROXIMATELY 8-20 FEET IN DIAMETER

2. THIS TYPICAL LAYOUT WILL BE MODIFIED AS REQUIRED IN THE FIELD TO PROMOTE NATURAL CONDITIONS AS DETERMINED BY THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE.

3. RIP RAP DIMENSIONS VARIES THROUGHOUT RAINY CREEK. SOME PLANTINGS MAY BE REQUIRED NEAR THE BANKFULL CHANNEL OVER THE RIP RAP.

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DESIGNED BY: R.B.R.	 <p>U.S. DEPARTMENT OF TRANSPORTATION RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER ENVIRONMENTAL ENGINEERING DIVISION, DTS-33 55 BROADWAY, 10TH FLOOR CAMBRIDGE, MASSACHUSETTS 02142</p>	<p>CONTRACTOR SUPPORT PROVIDED BY:</p> <p>CDM Federal Programs Corporation</p> <p>34 N. LAST CHANCE CIRCLE SUITE 104 FELLS, MONTANA 59701</p>	<p>ASBESTOS REMOVAL PROJECT LIBBY, MONTANA</p> <p>SCREENING PLANT</p>	<p>CONCEPTUAL PLANT LAYOUT</p>	PROJECT NO. 4000
DRAWN BY: K.M.					FILE NAME: 35767-FG2
SHEET CHK'D BY: D.S.					SHEET NO.
CROSS CHK'D BY:					C-3
APPROVED BY:					
DATE: OCTOBER 2002					
REV. NO.	DATE	DRWN	CHKD	REMARKS	